

PATENT ABSTRACTS OF JAPAN

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(54) MANUFACTURE OF METALLIC TITANIUM

(57)Abstract:

PURPOSE: To control the contamination of formed metallic Ti by the elements of the vessel material by introducing an inert gas into the space over the bath surface in a vessel to pressurize the space to specified pressure when $TiCl_4$ is supplied onto the bath surface of molten Mg in a cylindrical steel vessel through a piping means.

CONSTITUTION: A cylindrical steel vessel 3 is furnished in an electric heating furnace 1, metallic Mg is packed into the vessel 3, an inert gas is supplied into the space of the furnace and the vessel 3, and the Mg is heated and melted by a heater 2. Then $TiCl_4$ is blown from a supply pipe 6 onto the part around the center of the bath surface of molten Mg, and allowed to react with the Mg to deposit metallic Ti and $MgCl_2$. Sponge metallic Ti is recovered in this way. At this time, the pressure of the inert gas in the space over the bath surface in the vessel 3 is kept at \geq about 0.5kg/cm² gauge pressure to carry out the reaction. Consequently, the reaction proceeds mainly at the part of the bath surface distance from the wall surface, and the contamination of deposited metallic Ti by the elements of the vessel wall material is controlled.

